

IN THE CLAIMS

Claim 1 (currently amended): A method for service allocation among a plurality of entities requiring service allocation in a communications or computing environment comprising the steps of:

- a) initializing a supply of services of one or more holding entities;
- b) endowing one or more bidding entities with a fixed amount of utility and a requirement for an amount of said supply of services, wherein said fixed amount of utility represents less than, equal to, or more than the amount of said supply of services the entity could require to function at a particular time, said fixed amount of utility thereby also represents the possibility of failure due to a lack of resources;
- c) negotiating said supply of services of said holding entities, with each bidding entity bidding a selected amount of its said fixed amount of utility;
- d) redistribution of said supply of said holding entities among said bidding entities based on said negotiating, wherein said redistribution is based upon a proportion of said supply held by said holding entity using a holding price, said proportion being described by the formula:
$$R_c (1 - P_c / P_b)^{\text{exp}}$$
, wherein R_c is the current allocation of resource to agent, P_c is the current holding price of resource as held by an individual agent, P_b is the bid price and exp is an exponent.

Claim 2 (previously presented): The method of claim 1, wherein said supply of services is comprised of a plurality of resources.

Claim 3 (previously presented): The method of claim 2, wherein said plurality of resources are available at multiple service levels.

Claim 4 (previously presented): The method of claim 1, wherein said initializing, said endowing, said negotiating and said redistribution operate dynamically in response to a change in said supply of services, said fixed amount of utility or said requirement for said supply of services.

Claim 5 (previously presented): The method of claim 1, wherein said redistribution of said supply represents a guarantee of service.

Claim 6 (previously presented): The method of claim 2, wherein said resources are one or more physical devices.

Claim 7 (previously presented): The method of claim 3, wherein said multiple service levels includes said resources available at varying levels of quality.

Claim 8 (previously presented): The method of claim 3, wherein said multiple service levels includes said resources available at varying capacities.

Claim 9 (previously presented): The method of claim 3, wherein said multiple service levels are determined by resource sets.

Claim 10-13 (canceled)

Claim 14 (currently amended): The method of claim ~~13~~ 1, wherein $\exp=0.5$.

Claim 15 (previously presented): The method of claim 1, wherein each said bidding entity is represented by an agent.

Claim 16 (previously presented): The method of claim 15, wherein each said supply of services is represented by an agent.

Claim 17 (previously presented): The method of claim 16, wherein said holding entity is represented by an agent.

Claim 18 (previously presented): The method of claim 6, wherein said physical devices are a plurality of telephones, telephone interface circuits, trunk interface circuits, telephone lines and telephone switches for establishing or maintaining a voice or data communication.

Claim 19 (currently amended): A system for service allocation among a plurality of entities requiring service allocation in a communications or computing environment comprising:

- a) one or more holding entities having a supply of services;
- b) a plurality of bidding entities endowed with a fixed amount of utility and a requirement for an amount of said supply of services, wherein said fixed amount of utility represents less than, equal to, or more than the amount of said supply of services the entity could require to function at a particular time, said fixed amount of utility thereby also represents the possibility of failure due to a lack of resources;
- c) a broker in communication with said holding entities and said bidding entities for negotiating said supply of said holding entities, with each bidding entity bidding a selected amount of its said fixed amount of utility;

wherein said holding entity provides redistribution of said supply among said bidding entities based on said negotiating, wherein said redistribution is based upon a proportion of said supply held by said holding entities using a holding price, said proportion being described by the formula:

$R_c (1 - P_c / P_b)^{\text{exp}}$, wherein R_c is the current allocation of resource to agent, P_c is the current holding price of resource as held by an individual agent, P_b is the bid price and exp is an exponent.

Claim 20 (previously presented): The system of claim 19, wherein said supply of services is comprised of a plurality of resources.

Claim 21 (currently amended): The system of claim ~~19~~ 20, wherein said plurality of resources are available at multiple service levels.

Claim 22 (previously presented): The system of claim 19, wherein said holding entities, said bidding entities and said broker operate dynamically in response to a change in said supply of services, said fixed amount of utility or said requirement for said supply of services.

Claim 23 (previously presented): The system of claim 19, wherein said redistribution of said supply represents a guarantee of service.

Claim 24 (previously presented): The system of claim 20, wherein said resources are one or more physical devices.

Claim 25 (previously presented): The system of claim 21, wherein said multiple service levels include said resources available at varying levels of quality.

Claim 26 (previously presented): The system of claim 21, wherein said multiple service levels including resources available at varying capacities.

Claim 27 (previously presented): The system of claim 21, wherein said multiple service levels are determined by resource sets.

Claim 28-31 (canceled)

Claim 32 (currently amended): The system of claim ~~34~~ 19, wherein $\exp=0.5$.

Claim 33 (previously presented): The system of claim 19, wherein each said bidding entity is represented by an agent.

Claim 34 (previously presented): The system of claim 33, wherein each said supply of services is represented by an agent.

Claim 35 (previously presented): The system of claim 34, wherein said holding entity is represented by an agent.

Claim 36 (previously presented): The system of claim 24, wherein said physical devices are a plurality of telephones, telephone interface circuits, trunk interface circuits, telephone lines and telephone switches for establishing or maintaining a voice or data communication.